**Cardiovascular Health Risk Assessment**

UK guidelines recommend that all people aged 40 or more should have a routine cardiovascular risk assessment. A risk factor calculator is commonly used by doctors and nurses to assess the risk of you developing a cardiovascular disease such as heart attack, angina, stroke and peripheral vascular disease. Treatment is recommended if you have a high risk.

**What are cardiovascular diseases?**

Cardiovascular diseases are diseases of the heart or blood vessels that are caused by atheroma. Patches of atheroma are like small fatty lumps that develop within the inside lining of blood vessels (arteries). Atheroma is also known as hardening of the arteries. A patch of atheroma makes an artery narrower, which can reduce the blood flow through the artery. Sometimes blood clots form over a patch of atheroma. Depending on the site of the atheroma the diseases that it causes include heart attack, angina, stroke and peripheral vascular disease.

**Who should have their cardiovascular health risk assessed?**

* All adults aged 40 or more.
* Adults of any age who have:
	+ A strong family history of an early cardiovascular disease. This means if you have a father or brother who developed heart disease or a stroke before they were aged 55, or in a mother or sister before they were aged 65.
	+ A first-degree relative (parent, brother, sister, child) with a serious hereditary lipid disorder. For example, [familial hypercholesterolaemia](http://patient.info/health/familial-hypercholesterolaemia) or [familial combined hyperlipidaemia](http://patient.info/health/hyperlipidaemia-leaflet). These diseases are uncommon.

If you already have a cardiovascular disease or diabetes then your risk does not need to be assessed. This is because you are already known to be in the high-risk group.

**What does the screening involve?**

A doctor or nurse will ask if you have any current lifestyle risk factors that increase your risk of developing a cardiovascular disease. These include smoking, obesity, a poor diet, lack of physical activity and drinking a lot of alcohol. You will then have a blood test to check your blood cholesterol and sugar (glucose) level. Your blood pressure will be measured. A score is calculated based on several of these risk factors, your age and sex. An adjustment to the score is made for certain other risk factors such as strong family history and ethnic origin.

There are many different calculators. The Framingham calculator has been used for a long time but many health professionals are moving over to [QRISK®2](http://www.qrisk.org/). This is more accurate and takes into account many other factors such as whether you have a condition called atrial fibrillation, or kidney disease.

**What does the assessment score mean?**

You are given a score as a % chance. So, for example, if your score is 30% this means that you have a 30% chance of developing a cardiovascular disease within the following 10 years. This is the same as saying a 30 in 100 chance (or a 3 in 10 chance). So in this example, 3 in 10 people with the same risk factors that you have will develop a cardiovascular disease within the following 10 years. **Note**: the score cannot say if you will be one of the three. It cannot predict what will happen to each individual person. It just gives you the odds. You are said to have a:

* High risk - if your score is 20% or more. This is a 2 in 10 chance or more of developing a cardiovascular disease within the following 10 years.
* Moderate risk - if your score is 10-20%. This is between a 1 in 10 and 2 in 10 chance. This should be re-assessed every year.
* Low risk - if your score is less than 10%. This is less than a 1 in 10 chance. This should be re-assessed every five years.

**Who should be treated to reduce their cardiovascular health risk?**

Treatment to reduce the risk of developing a cardiovascular disease is usually offered to people with a moderate or high risk. That is:

* People with a risk assessment score of 10% or more. That is, if you have a 1 in 10 chance or more of developing a cardiovascular disease within the following 10 years.
* People with an existing cardiovascular disease (to lower the chance of it getting worse, or of developing a further disease).
* People with diabetes. If you have diabetes, the time that treatment is started to reduce cardiovascular risk depends on factors such as:
	+ Your age.
	+ How long you have had diabetes.
	+ Your blood pressure.
	+ Whether you have any complications of diabetes.
* People with certain kidney disorders.

**What treatments are available to reduce the risk?**

If you are at moderate or high risk

If you are at moderate or high risk of developing a cardiovascular disease, treatment with medicines is usually advised. Advice to tackle any lifestyle issues is also given. This usually means:

* Treatment with medication to lower your cholesterol level, usually with a statin medicine. No matter what your current cholesterol level, treatment with medication is advised. [See separate leaflet called Cholesterol for more details](http://patient.info/health/cholesterol).
* Treatment with medication to lower blood pressure if your blood pressure is high. This is even if your blood pressure is just mildly high. [See separate leaflet called High Blood Pressure (Hypertension) for more details](http://patient.info/health/high-blood-pressure-hypertension).

Where relevant, to encourage you to tackle lifestyle risk factors. This means to:

* [Stop smoking if you smoke](http://patient.info/health/the-benefits-of-stopping-smoking).
* [Eat a healthy diet](http://patient.info/health/healthy-eating).
* [Keep your weight and waist in check](http://patient.info/health/weight-reduction-how-to-lose-weight).
* [Take regular physical activity](http://patient.info/health/physical-activity-for-health).
* [Cut back if you drink a lot of alcohol](http://patient.info/health/recommended-safe-limits-of-alcohol).

You may be offered a referral to specialised services - for example:

* To a dietician to help you to lose weight and eat a healthy diet.
* To a specialised stop smoking clinic.
* To a supervised exercise programme.

**What if I am at low risk?**

If you are at low risk, it does not mean you have no risk - just a lesser risk. Medication is not usually prescribed. However, you may be able to reduce whatever risk you do have even further by any relevant changes in lifestyle (as described in the above paragraph).

Some people with a low risk buy a low-dose statin drug from a pharmacy to lower their cholesterol level. [Statin medicines](http://patient.info/health/statins-and-other-lipid-lowering-medicines) are available on prescription and funded by the NHS if your risk is moderate or high. However, you need to buy them if your risk is in the low category. If you do buy a statin and take it regularly, it is best to let your doctor know so that it can be put on your medical record.

Further help & information

[**HEART UK - The Cholesterol Charity**](http://patient.info/support/heart-uk-the-cholesterol-charity)

7 North Road, Maidenhead, Berkshire, SL6 1PE

Tel: (Helpline) 0845 450 5988, (Office) 01628 777046

Web: [www.heartuk.org.uk](http://www.heartuk.org.uk/)

[**British Heart Foundation**](http://patient.info/support/british-heart-foundation)

Greater London House, 180 Hampstead Road, London, NW1 7AW

Tel: (Heart Helpline) 0300 330 3311, (Admin) 020 7554 0000

Web: [www.bhf.org.uk](http://www.bhf.org.uk/)

Further reading & references

* [Lipid modification - cardiovascular risk assessment and the modification of blood lipids for the prevention of primary and secondary cardiovascular disease](http://www.nice.org.uk/guidance/CG181/chapter/Introduction); NICE Clinical Guideline (July 2014)
* [CVD risk assessment and management](http://cks.nice.org.uk/cvd-risk-assessment-and-management); NICE CKS, September 2014 (UK access only)
* [Risk estimation and the prevention of cardiovascular disease](http://www.sign.ac.uk/pdf/sign97.pdf); Scottish Intercollegiate Guidelines Network - SIGN (2007)
* [Acute coronary syndrome](http://www.sign.ac.uk/pdf/SIGN148.pdf); Scottish Intercollegiate Guidelines Network - SIGN (2016)
* [European guidelines on cardiovascular disease prevention in clinical practice](http://www.escardio.org/guidelines-surveys/esc-guidelines/Pages/cvd-prevention.aspx); European Society of Cardiology (2012)
* [Cardiovascular disease prevention](http://www.nice.org.uk/guidance/ph25/chapter/Introduction); NICE Public Health Guideline (June 2010)

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| Original Author:Dr Tim Kenny  | Current Version:Dr Colin Tidy  | Peer Reviewer:Dr John Cox  |
| Document ID:4772 (v41) | Last Checked:12/05/2016  | Next Review:12/05/2019  |